

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. *Applicant/Contact name and address:* **Big Sky Coal Company
P.O. Box 97
Colstrip, MT 59323-0097**
2. *Type of action:* **Application Beneficial Water Use Permit 42A 30024849**
3. *Water source name:* **Non-Alluvial Groundwater**
4. *Location affected by project:* **NW, NW, NE of Section 30 in Township 1 North, Range 41 East of Rosebud County.**
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
The applicant proposes to use a reclaimed pit, left from a strip mining operation as a reservoir for stock watering. The impoundment referred to as B3, has a surface area of 4.53 acres and a total volume of 84 AF. The reservoir will water around 80 animal units year round at 1.36 AF per year and experience 14 AF per year of evaporation. The total consumption of this reservoir including evaporation will be 15.36 AF per year. The DNRC will issue a provisional water use permit only if all criteria for issuance under MCA 85-2-311 are met.
6. *Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)*

Montana Natural Heritage Program	Endangered / Threatened Species information
Montana Historic Preservation Office	Cultural Resource Inventory
Montana Dept of Fish Wildlife & Parks	2005 Dewatered Stream information
Montana Dept of Environmental Quality	2006 TMDL information
Rosebud County	

Part II. Environmental Review**Environmental Impact Checklist:****PHYSICAL ENVIRONMENT****WATER QUANTITY, QUALITY AND DISTRIBUTION**

Water quantity - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

Determination: The source is non-alluvial ground water. Though, there is an active moratorium on any new surface permits within the Rosebud Creek Drainage including all tributaries to Rosebud Creek. The B3 and Lee Coulee reservoirs are in the Lee Coulee Creek basin which is a tributary to Rosebud Creek. Neither Rosebud Creek nor Lee Coulee Creek are listed as chronically or periodically dewatered. The applicant described

To & From Reservoir	Contribution	Consumption
Surface Runoff	2.7 AF/Year	
Groundwater Seepage	7.2 AF/Year	
Direct Precipitation	5.5 AF/ Year	
Stock Consumption		1.36 AF/Year
Evaporative Consumption		14 AF/Year
TOTALS	15.4 AF/Year	15.36 AF/Year

Table 1. Applicants description of net water use.

the B3 reservoir as being sustained by groundwater seepage, surface runoff, and direct precipitation. The net input and consumption is shown in Table 1. This impoundment is not expected to impact the water quantity in Lee Coulee Creek or Rosebud Creek.

Water quality - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

Determination: Neither, Lee Coulee or Rosebud creek are listed as water quality impaired by the Montana DEQ. The applicant evaluated the ground water quality near where both ponds are now located over a 13 year period while the mining operation was active. Based on their tests the TDS and trace element levels of both ponds are safe for cattle drinking. The TDS level of the B3 pond will vary seasonally around 2,200 mg/l and the Sulfate values will average 1,250 mg/l. According to Big Sky Mine data these are similar levels found from stream monitoring sites in the Lee Coulee Valley. No significant impacts due to overflow of the ponds are expected.

Groundwater - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

Determination: The source of water for these ponds is the Fort Union Sandstone Aquifer, surface runoff and direct precipitation. The ground water in the Lee Coulee Valley is in recovery from the dewatering operation of the mine. These impoundments should have no impact on ground water quality. They will however be a consumption of ground water due to the combined 32 AF/year evaporation from the ponds surface. There are seven existing surface water rights being voluntarily abandoned as part of this project to mitigate this evaporation. The seven existing water rights are shown in Table 2 of page 6. Based on the mitigation and calculations by Big Sky Coal, the aquifer will continue to recover and the two reservoirs will produce a flow into the valley after the impoundments are filled. No significant impacts on the aquifer are expected due to these reservoirs.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: The diversion works are constructed out of mining spoils and backfill in the reconstructed Lee Coulee Valley. The reservoirs are constructed at the edge of final mine excavations. Both impoundments are in a recently reclaimed native earth. The B3 reservoir has a surface area of 4.53 acres and a maximum depth of 40.5 feet, with a volume of 84 AF.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”*

Determination: The only threatened or endangered species listed by the Natural Heritage Program in this area is the Lead Plant and the Little Indian Breadroot. Both are vascular plants listed as sensitive. Because this area was strip mined and reclaimed the existence of ponds should have no negative impacts on either of these plants.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: There are no wetlands within the project area.

Ponds - *For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: The construction of ponds in the reclaimed Lee Coulee Valley should have no negative impacts on existing wildlife, waterfowl or fisheries. It may in fact have a beneficial impact on these resources.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: Big Sky Coal projects that the water from the Fort Union Sandstone Aquifer currently re-saturating the soils of the reclaimed mine area, will reach full saturation decades from now. Eventually sub irrigating 44 acres of the valley floor. The ground water source is not expected to cause saline seep in the Lee Coulee Valley.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: These reservoirs are part of a strip mining reclamation project. As such the vegetation cover around the reservoirs is part of the reclamation and managed under that project. It's expected that Big Sky Coal is currently taking an active roll in noxious weed control with in the Lee Coulee Valley.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: There is not expected to be additional deterioration of air quality or future adverse effects on vegetation due to increased air pollutants from the operation of these reservoirs.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: This area was strip mined. No additional impacts to historical sites that may or may not have existed in the Lee Coulee Valley are expected.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: There is not expected to be any other significant impacts on other environmental resources of land, energy, and water from this proposed use.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: This project is consistent with environmental plans and goals normally accepted in Rosebud County.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: These reservoirs are on private property. Though, the availability of open water may provide additional habitat for prairie wildlife, waterfowl, and game animals in the Lee Coulee Valley.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: There should be no significant impact on human health from this project.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*

Yes___ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

Determination: **No significant impact.**

OTHER HUMAN ENVIRONMENTAL ISSUES - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

1. *Impacts on:*

- (a) Cultural uniqueness and diversity? **No significant impact.**
- (b) Local and state tax base and tax revenues? **No significant impact.**
- (c) Existing land uses? **No significant impact.**
- (d) Quantity and distribution of employment? **No significant impact.**
- (e) Distribution and density of population and housing? **No significant impact.**
- (f) Demands for government services? **No significant impact.**
- (g) Industrial and commercial activity? **No significant impact.**
- (h) Utilities? **No significant impact.**
- (i) Transportation? **No significant impact.**
- (j) Safety? **No significant impact.**
- (k) Other appropriate social and economic circumstances? **No significant impact.**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: **There are few if any negative secondary impacts to report. Reclaiming the strip mine, building habitats for wildlife and providing energy free stock watering all are better options then leaving the mined pit open and un-reclaimed. It may also be a better option to reclaiming the valley as a featureless prairie.**

Cumulative Impacts: **More uses of surface or ground water in any given basin will increase competition for the resource between users down stream. The demand for water in semi-arid Eastern Montana is continually increasing while the limited nature of the resource is becoming more apparent.**

3. *Describe any mitigation/stipulation measures:* **The applicant has offered to voluntarily abandon seven existing surface water rights totaling 32.24 AF/year to mitigate the 14 AF/year evaporative loss in this reservoir and 18 AF/year evaporative loss from**

the Lee Coulee Reservoir addressed in application 42A 30024850. The seven water rights are within 5,000 feet of the impoundments and are listed in Table 2.

Water Right	Purpose	Volume	Point of Diversion	Source
42A-27316	Stock	2 AF	SW Sec 30, T1N, R41E	U.T. Lee Coulee
42A-27317	Stock	2 AF	NW Sec 30, T1N, R41E	Lee Coulee
42A-27319	Stock	2 AF	SW, SW, NE Sec 30, T1N, R41E	U.T. Lee Coulee
42A-27338	Stock	13.44 AF	SW Sec. 24, T1N, R40E	Lee Coulee
42A-27340	Stock	3.2 AF	SW, NE, NE Sec. 24, T1N, R40E	U.T. Lee Coulee
42A-27341	Stock	3.2 AF	SW, NE, SE Sec. 24, T1N, R40E	U.T. Lee Coulee
42A-27342	Stock	6.4 AF	SW, NW, SE Sec. 25, T1N, R40E	U.T. Lee Coulee

Table 2. Water Rights voluntarily abandoned to mitigate evaporation from both the Lee Coulee and B3 reservoirs.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*
One reasonable alternative is to fill in these reservoirs and to allow natural seepage and sub irrigation of the area near the existing ponds. The no action alternative as of right now will mean the reservoirs remain in place but no beneficial use of water will be permitted for them.

PART III. Conclusion

1. *Preferred Alternative:* **The preferred alternative is to grant these permits for beneficial water use to Big Sky Coal Company.**
2. *Comments and Responses:* **None to report**
3. *Finding:*
4. *Yes* ☐ *No* ☒ *Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:

Name of person(s) responsible for preparation of EA:

Name: **Tim Lewis**

Title: **Water Resources Specialist**

Date: **December 21, 2006**